

# **Practical Internet principles and social software for SPI**

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Onno van der Straaten

## Topics

- What is a process description to you?
- SPEM 2.0 Conceptual Framework
- Eclipse Process Framework (EPF) Project
  - Composer/Practices
- EPF Wiki
- Conclusion
- Q&A



## Background Onno van der Straaten

- Software Architect Logica
- Eclipse Committer Member EPF Project
  - <http://www.eclipse.org/epf>
- Initiator of the EPF Community Site
  - <http://epf.eclipse.org>

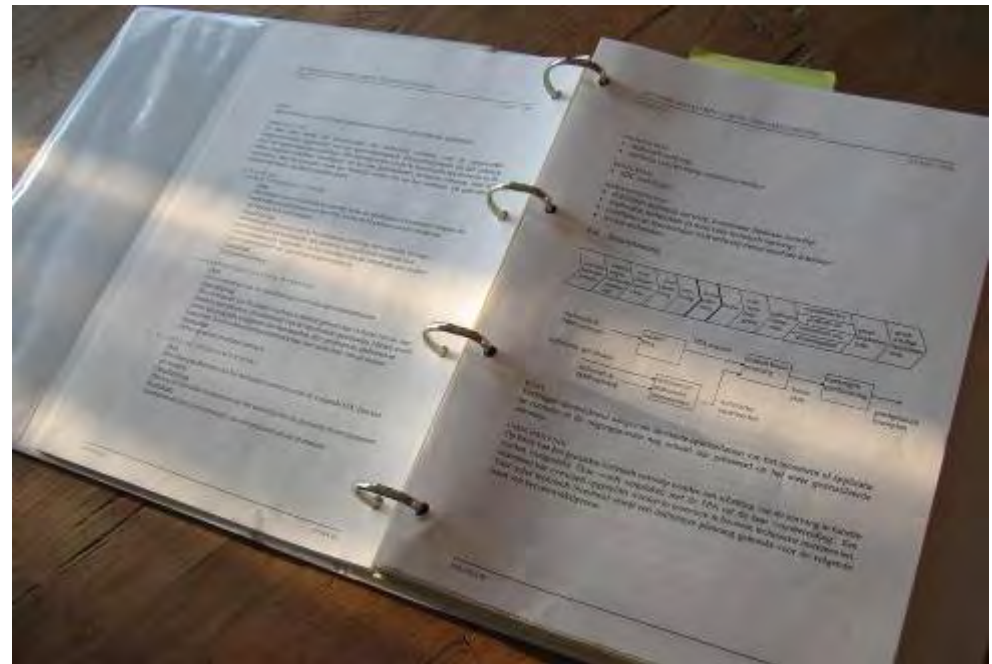


## What is a process description to you?

- Roles, tasks, products?
- Workbreakdown?
- Workflow?
- Lifecycle?
- Set of key principles?
- Documented practices?
- Some knowledge base?
- A book or whitepapers?
- Wiki that you can easily update, maintain?
- ...

## My first process description

- 1996
- CMM L3
- Hard copy only



# My current process description

Result Model | Eclipse Process Framework Proje... | EPF Wiki - Home

## RESULT MODEL

View | Discussion | Edit | New | History | Home | Manage

RM Roles > Developers > Software Architect

### Role: Software Architect

This role leads the development of the system's software architecture, which includes promoting and creating support for the key technical decisions that constrain the overall design and implementation for the project.

Role Sets: Developers, Roles in Analysis and Design, Roles in Implementation

#### Relationships

Software Architect performs:

- Apply Services Litmus Tests
- Architectural Analysis
- Assess Viability of Architectural Proof-of-Concept
- Business Process Analysis
- Business Rule Analysis
- Business Use Case Analysis (SOA)
- Construct Architectural Proof-of-Concept
- Data Model Analysis
- Describe Distribution
- Describe the Runtime Architecture
- Existing Asset Analysis
- Identify Design Elements
- Identify Design Mechanisms

Software Architect is responsible for:

- Construct Architectural Proof-of-Concept (SOA)
- Incorporate Existing Design Elements
- Prioritize Use Cases
- Structure the Implementation Model
- Analysis Model
- Architectural Proof-of-Concept
- Deployment Model
- Design Model
- Event
- Goal-Service Model
- Impact Analysis
- Implementation Model
- Interface
- Protocol
- Reference Architecture
- Signal
- Software Architecture Document

#### Additionally Performs

- Operation Analysis
- Operation Design
- Define System Context
- Message Design
- Document Service Realization Decisions
- Identify Commonality and Variability
- Service Specification
- Software Architecture Document

#### Modifies

Search Result: Search Scope (1 - 10 / 345)

Task: Impact Analysis  
Impact analysis determines the effect of the proposed changes, which is then used to select the best solution for realising the change. Disciplines: Enhancement and Renovat...

Template: RC Impact Analysis (Microsoft Word Template)  
The template is attached in one or more formats. Relationships Related Elements Software Development Plan Risk Management Plan Requirements Management Plan Impact Analysis ...

Artifact: Impact Analysis  
Domains: Configuration & Change Management Relationships Roles Responsible: Application Engineer Software Architect Modified By: Change Control Manager Tasks Input To: Outp...

Custom Category  
MNGT PLANS  
Configuration Management Plan Relationships  
Contents RC Template  
PDS RC Configuration  
Audit Findings (Microsoft Word Template) RC Impact Analysis (Microsoft Word...

Domain: Configuration &

# What to do right now: my tasks in context of a WBS

The screenshot displays the Eclipse Process Framework (EPF) web application interface. The top navigation bar includes tabs for 'Result Model', 'Eclipse Process Framework Proje...', and 'EPF Wiki - Home'. The main content area is titled 'RESULT MODEL' and shows a tree view on the left with categories like 'Getting Started', 'Team', 'Delivery Processes', and 'Inception'. The 'Inception' category is expanded, showing 'Inception Iteration [n]' as the selected activity. The main panel displays the 'Activity: Inception Iteration [n]' with a description and a 'Team Breakdown' table. The table lists various roles and their associated work products. On the right, a search bar and a list of search results are visible, including 'Task: Impact Analysis' and 'Template: RC Impact Analysis (Microsoft Word Template)'.

**Activity: Inception Iteration [n]**

This iteration includes the activities to be performed during an iteration in the Inception Phase. The overriding goal of the inception phase is to achieve concurrence among all stakeholders on the lifecycle objectives for the project. The inception phase is of significance primarily for new development efforts, in which there are significant business and requirements risks which must be addressed before the project can proceed. For projects focused on enhancements to an existing system, the inception phase is more brief, but is still focused on ensuring that the project is both worth doing and possible to do.

Extends: Inception Iteration

Description	Work Breakdown Structure	Team Allocation	Work Product Usage
<b>Team Breakdown</b>			
Breakdown Element	Model Info	Team Type	Planned Multiple Occurrences
Business Architect		Role	✓
Business Designer		Role	✓
Business-Process Analyst		Role	✓
Change Control Manager		Role	✓
Configuration Manager		Role	✓
Deployment Manager		Role	✓
Integrator		Role	✓
Management Reviewer		Role	✓
Process Engineer		Role	✓
Project Manager		Role	✓
Requirements Specifier		Role	✓
Review Coordinator		Role	✓
Reviewer		Role	✓
Software Architect		Role	✓
Analysis Model	Responsible For	Work Product	
Architectural Proof-of-Concept	Responsible For	Work Product	
Deployment Model	Responsible	Work Product	

**Task: Impact Analysis**  
Impact analysis determines the effect of the proposed changes, which is then used to select the best solution for realising the change. Disciplines: Enhancement and Renovat...

**Template: RC Impact Analysis (Microsoft Word Template)**  
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**Artifact: Impact Analysis**  
Domains: Configuration & Change Management Relationships Roles Responsible: Application Engineer Software Architect Modified By: Change Control Manager Tasks Input To: Outp...

**Custom Category**  
MNGT PLANS Configuration Management Plan Relationships Contents RC Template PDS RC Configuration Audit Findings (Microsoft Word Template) RC Impact Analysis (Microsoft Word...

**Domain: Configuration &**

Path: table » tbody » tr » td » div.overview » table » tbody » tr » td » table.overviewTable » tbody » tr » td

# ...history of changes

OpenUP/Basic

[Where am I](#) | [Tree Sets](#) |

[Introduction to OpenUP/Basic](#)

[Getting Started](#)

[Core Principles](#)

[Roles](#)

[Analyst](#)

[Any Role](#)

[Architect](#)

[Primarily Performs](#)

[Additionally Performs](#)

[Responsible For](#)

[Modifies](#)

[Developer](#)

[Project Manager](#)

[Stakeholder](#)

[Tester](#)

[Work Products](#)

[Disciplines](#)

[OpenUP/Basic Lifecycle](#)

View Discussion Edit New History

george.shapiro@epf.eclipse.org Home Manage

History: Developer

This page displays the history of changes of Developer in Wiki OpenUP Wiki

[Edit](#) | ☒ [notify me of new comments and changes](#) | [Rollback](#)

[Expand All Sections](#) [Collapse All Sections](#)

Versions

ID	Version	Note	Created	Created By	Review Complete (Harvested)	Reviewer	Review Note	Review Note Send On
458	<a href="#">Version 0</a>	Automatically created	01:58 24 Sep 2008	<a href="#">oup_20060721</a>	<input checked="" type="checkbox"/>			
646	<a href="#">Version 1</a>	Wiki change	01:09 25 Sep 2008	<a href="#">George Shapiro</a>	<input type="checkbox"/>			
647	<a href="#">Version 2</a>	Wiki delete	01:11 25 Sep 2008	<a href="#">George Shapiro</a>	<input type="checkbox"/>			

[Back to top](#)

Relationships

Baseline Updates

This page was updated with the following Baseline Processes:
 

- 01:58 24 Sep 2008 with [oup\\_20060721](#)

Notifications

The following users will be notified of changes and new comments:
 

- [George Shapiro](#)

# ...who changed what

OpenUP/Basic
Glossary | Index | Feedback | About

Where am I | Tree Sets |

OpenUP/Basic

Introduction to OpenUP/Basic  
Getting Started  
Core Principles  
Roles  
Analyst  
Any Role  
Architect  
Primarily Performs  
Additionally Performs  
Responsible For  
Modifies  
Developer  
Project Manager  
Stakeholder  
Tester  
Work Products  
Disciplines  
OpenUP/Basic Lifecycle

View Discussion Edit New History
george.shapiro@epf.eclipse.org Home Manage

Diff: Developer

This page shows changes between versions of [Developer](#) in [OpenUP Wiki](#)

Version

Source Version 0 from OpenUP Wiki (oup\_20060721)  
Target Version 2 from OpenUP Wiki (George Shapiro)  
Compare

Expand All Sections Collapse All Sections

Differences Analysis

Old Version	<a href="#">Developer</a> version 0
New Version	<a href="#">Developer</a> version 2 (based on version 0 )
Differences	Open in a new window

Role: Developer

This role is responsible for developing a part of the system including designing it such that it possibly prototyping the user-interface, and implementing, ~~unit testing~~ and integrating the cc solution. [Wiki change](#)  
Role Sets: [Roles](#)

Expand All

Relationships

```

graph LR
    Developer[Developer] -- performs --> Implement[Implement the Solution]
    Developer -- performs --> Integrate[Integrate and Create Build]
    Developer -- performs --> ImplementTests[Implement Developer Tests]
    Developer -- performs --> RunTests[Run Developer Tests]
    Developer -- responsible for --> Implement
    Developer -- responsible for --> Integrate
    Developer -- responsible for --> ImplementTests
    Developer -- responsible for --> RunTests
    
```

29 October 2008

Practical Internet principles and social software for SPI

No. 10

# ...with discussions

OpenUP/Basic

[Glossary](#) | [Index](#) | [Feedback](#) | [About](#)

[Where am I](#) | [Tree Sets](#)

OpenUP/Basic

- Introduction to OpenUP/Basic
- Getting Started
- Core Principles
- Roles
  - Analyst
  - Any Role
  - Architect
    - Primarily Performs
    - Additionally Performs
    - Responsible For
    - Modifies
  - Developer
  - Project Manager
  - Stakeholder
  - Tester
- Work Products
- Disciplines
- OpenUP/Basic Lifecycle

Staffing

Skills	<p>A person performing this role needs:</p> <ul style="list-style-type: none"> <li>The ability to define and create technical solutions in the technology in use for the project.</li> <li>The ability to identify and build test cases that cover required behavior from the technical components.</li> <li>The ability to communicate designs in a way that can be understood by other team members.</li> </ul> <p>In addition, to model the system visually, the person performing this role needs:</p> <ul style="list-style-type: none"> <li>The ability to render the design visually using the Unified Modeling Language.</li> </ul>
Assignment Approaches	<p>Even in the smallest team, multiple individuals should be working together to create the technical solution.</p> <p>The person performing this role can have specialized skills for some particular technical area, but should also have broad understanding of all the technologies in play to be able to work with other technical team members.</p>

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This program and the accompanying materials are made available under the  
Eclipse Public License v1.0 which accompanies this distribution.

Last updated 4 minutes ago by George Shapiro (*Wiki delete*)  
George Shapiro contributed to this page.  
Version 2 - George Shapiro

Discussion

01:15 25 Sep 2008

Comment on the developer role

George Shapiro

# It is a part of process portal

Result Wiki - Home
Eclipse Process Framework Proje...
EPF Wiki - Home

Result Wiki

[Home](#) | [Wikis](#) | [Users](#) | [Manage](#) | [About](#)

## Welcome

Welcome to Result Wiki

## Most Recent






Discussion
Changes
Uploads
Pages


- 17:21 15 Sep 2008 - [template project generic Logica Result \(Word 2007\).dotx](#) - Josine de Wilde "template project generic Logica Result (Word 2007).dotx"
- 17:20 15 Sep 2008 - [template empty Logica Result document.nl \(Word 2003\).dot](#) - Josine de Wilde "template empty Logica Result document.nl (Word 2003).dot"
- 17:20 15 Sep 2008 - [template empty Logica Result document \(Word 2007\).dotx](#) - Josine de Wilde "template empty Logica Result document (Word 2007).dotx"
- 17:19 15 Sep 2008 - [template empty Logica Result document \(Word 2003\).dot](#) - Josine de Wilde "template empty Logica Result document (Word 2003).dot"

[More uploads...](#)

## Wikis

Process descriptions created using EPF Composer deployed as Wikis:

- [Result Model](#) 
- [Result Model for IBM Rational](#) 
- [Result Model for Microsoft VS 2003 .Net](#) 
- [Result Model for Oracle J2EE](#) 
- [Result Model for VSTS and GIS](#) 




RSS for all Wikis: 

## Toolbox

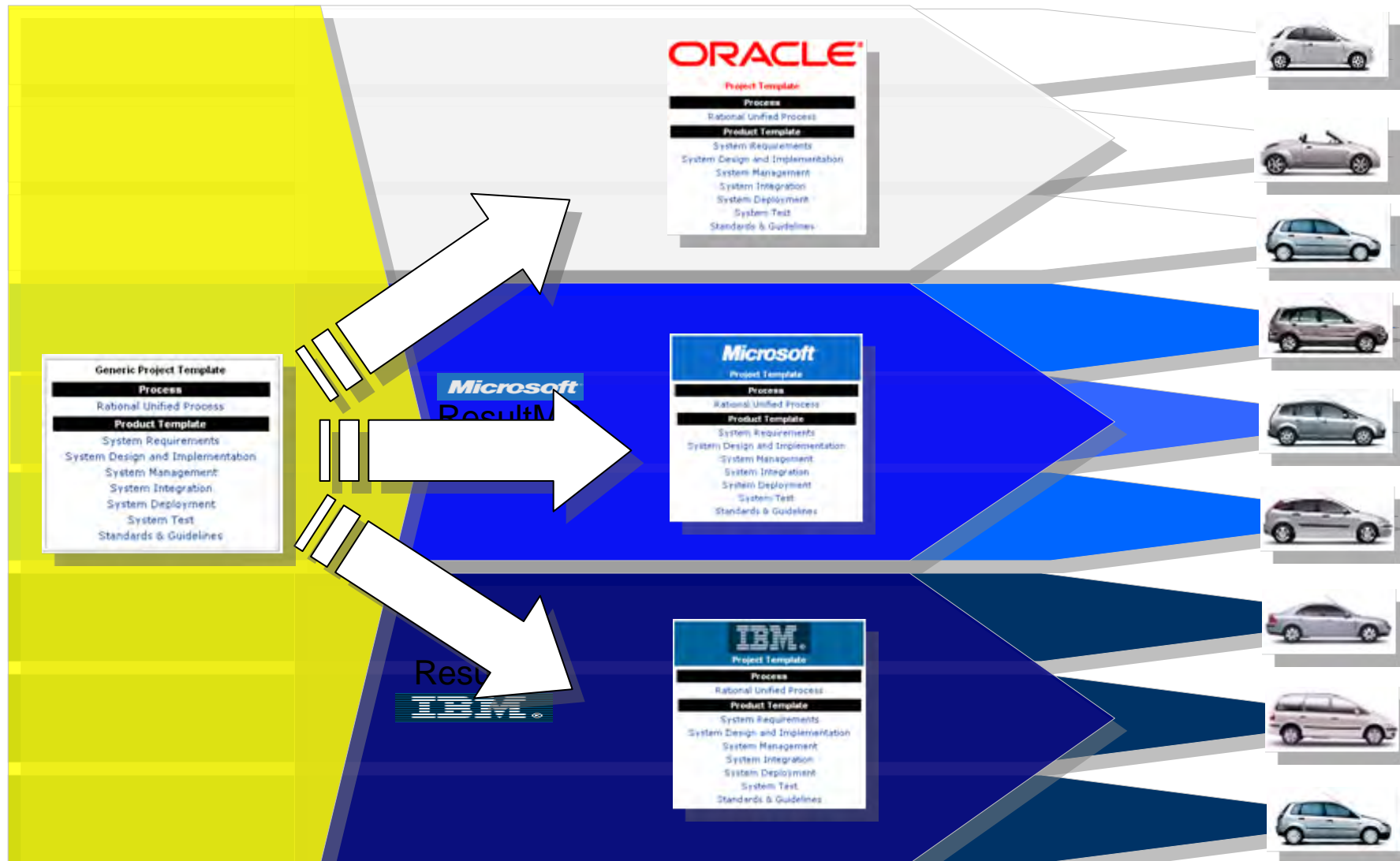
- [Create new page in ...](#)
- [Upload file](#)
- [My Account](#)
- [EPF Wiki User Guide](#)
- [Result Wiki Demo/Training Environment](#)

## Hall of Fame

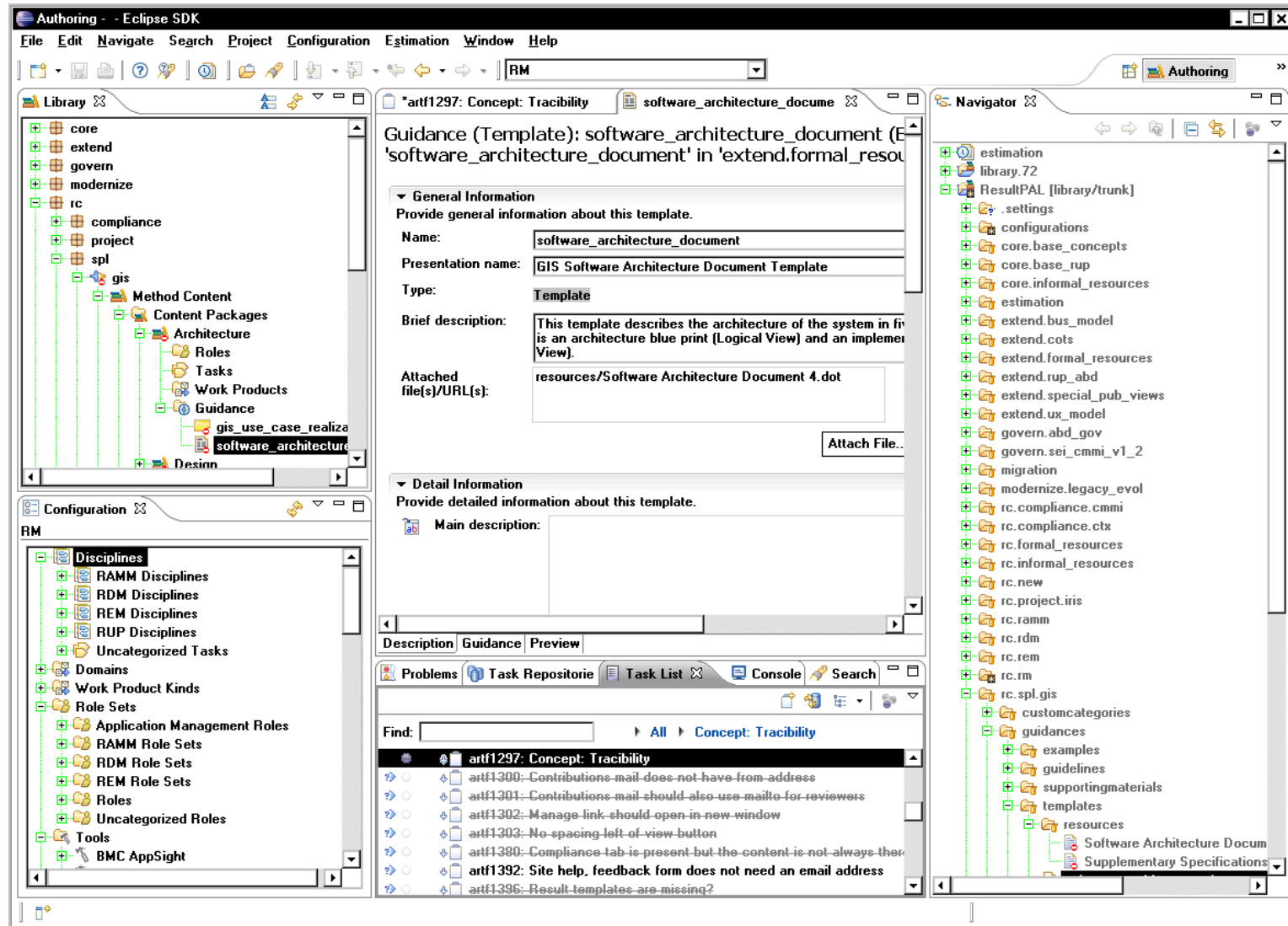
Monthly
Overall

- [Josine de Wilde](#) : 5
- [Onno van der Straaten](#) : 2
- [Bert Oudejans](#) : 1

# Process variants for Software Product Lines



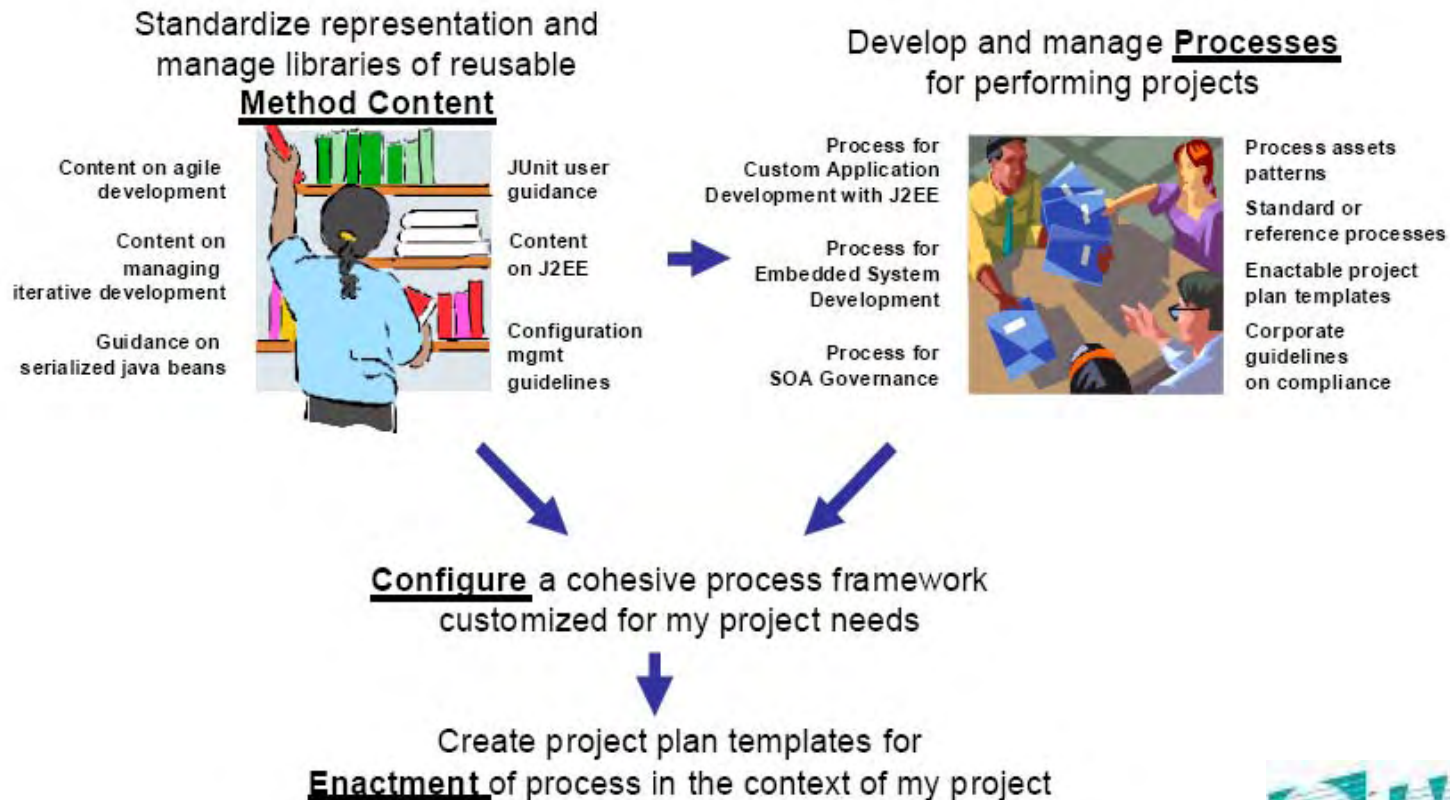
# Process assets in my CM system



# **SPEM 2.0/EPF PROJECT**

## SPEM 2.0 Conceptual Framework

# • Software Process Engineering Meta-model



## SPEM 2.0 Example

- Customer Relationship Management (CRM) Business Process
- Generic and specific at the same time



Bron:

Architecting IBM Global and Local Business Processes using Rational Method Composer

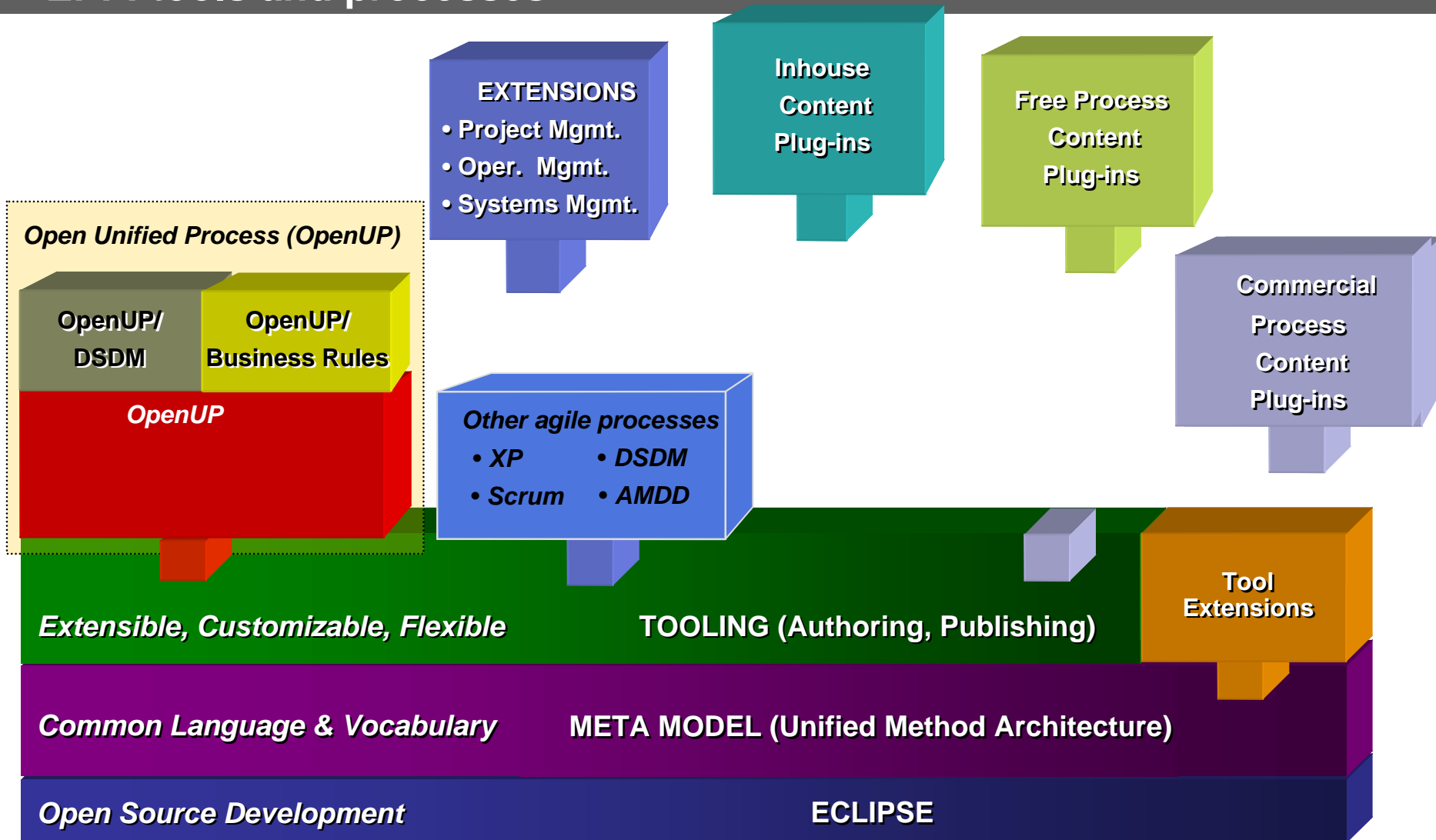
Cecile Peraire, IBM Developerworks, 2008

## Eclipse Process Framework (EPF) Project

- Ecosystem for open source software development processes
- Tools, a unified metamodel and processes
- Community strength



# EPF: tools and processes



Made available under EPL v1.0

# EPF Composer

**Easy to use, form-based rich-text editing capabilities.**

**Work Product (Artifact): rup\_analysis\_class**

**General Information**  
Provide general information about this artifact.

Name: rup\_analysis\_class  
Presentation name: Analysis Class  
Unique ID:  
Brief description: This work product specifies elements of an early conceptual model for 'things in the system' which have responsibilities and behavior.

**Detail Information**  
Provide detailed information about this artifact.

Purpose: Analysis classes are used to capture the major system.

Main description: Analysis Classes specify elements of an early conceptual model of the system which have responsibilities and behaviors. They are prototypical classes of the system, and are first-level abstractions that the system must handle. Analysis classes are maintained in their own right, if a 'high-level' class is desired. Analysis classes also give rise to the system.

Key considerations:

**Notation**  
Provide notation information about this artifact.

Brief notation:

Representation options:

**Tailoring**  
Provide tailoring information about this artifact.

Impact of not having:

**Work Product (Artifact): rup\_analysis\_class**

Representation options:

Normal

CRC Card technique - see [WROG] for details of this technique. On the front side of the card, capture the name and description of the class. An example for a Course in a course registration system is listed below:

Name	Description	Type
Course Title	The name of the course	string
Description	A short description of the course	string

On the back of the card, draw a diagram of the class

```

classDiagram
    class Course {
        name
        description
    }
    class Section {
    }
    class Professor {
    }
    class Student {
    }
    class Textbook {
    }
    Course "0..*" -- "0..*" Section
    Section "1..*" -- "1..*" Professor
    Section "1..*" -- "1..*" Student
    Section "1..*" -- "1..*" Textbook
    
```

Made available under EPL v1.0

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## EPF Practices (EPF 1.5)

### • Management Practices

- Iterative Development
- Risk-value Lifecycle
- Two-Level Project Planning
- Whole Team
- Change Management

Scrum

XPish

OpenUP

### • Technical Practices

- Concurrent Testing
- Continuous Integration
- Evolutionary Architecture
- Evolutionary Design
- Shared Vision
- Test-Driven Development
- Use-Case-Driven Development

About the three collaboration games:

“All Implemented within Eclipse/EPF”, Dave West van EssUP/IJC

# EPF WIKI

# EPF Wiki

- Wiki technology for EPF
- EPF Community Site  
— <http://epf.eclipse.org>
- Browser Based WYSIWYG Editing
- Templates, File Attachments, RSS Feeds, Email, Discussions
- Advantages but not the disadvantages of a Wiki.
- Company Wind River:  
“Wiki based PRLC has been a nightmare to maintain”

## EPF Wiki

[Home](#) | [About](#) | [Manage](#)

### Welcome

This site contains free software process descriptions that everyone can edit. These descriptions are created by the Eclipse Process Framework (EPF) community using EPF Composer and deployed here as Wikis.

Currently the following configurations are deployed here:

- [EPF Practices Library](#)
- [OpenUP](#)
- [OpenUP PT](#)
- [OpenUP RU](#)
- [OpenUP SP](#)
- [Scrum](#)
- [XP](#)
- [XP PT](#)

All together these descriptions consist of:

- 220 Activities
- 172 Artifacts
- 113 Checklists
- 339 Concepts
- 36 Milestones
- 66 Roles
- 10 Templates
- 2 Toolmentors

### Most Recent

#### Checkout of "Role: Architect"

2 days ago Daniel Mazzitelli created a checkout with comment:

Links: [Role: Architect](#)

#### Checkout of "Supporting Material: Use-Case Driven Development Practice"

2 days ago Daniel Mazzitelli created a checkout with comment:

Links: [Supporting Material: Use-Case Driven Development Practice](#)

#### Change of "Practice: Evolutionary Architecture"



### Search EPF Wiki

 Custom Search  


### Wikis

Process descriptions created using EPF Composer deployed as Wikis:

- [EPF Practices Library](#)
- [OpenUP](#)
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- [OpenUP RU](#)
- [OpenUP SP](#)
- [Scrum](#)
- [XP](#)
- [XP PT](#)

### Checkouts

- [Role: Architect](#) (2 days ago by Daniel Mazzitelli)
- [Supporting Material: Use-Case Driven Development Practice](#) (2 days ago by Daniel Mazzitelli)
- [Template: Vision](#) (28 days ago by François-Xavier Choinière)
- [Practice: Evolutionary Design](#) (about 1 month ago by Kim Werner)
- [testing Process](#) (2 months ago by Vishal)
- [Capability Pattern: Develop the Architecture](#) (4 months ago by Tiago Marques)
- [Artifact: Iteration Plan](#) (6 months ago by florimodo)
- [Role: Analyst](#) (6 months ago by ...)

# EPF Infrastructure

## Process Engineering



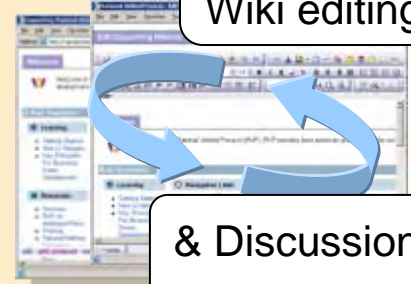
## Process Configuring



## Process Description



## Process Wiki



Unrestricted Wiki editing

& Discussions

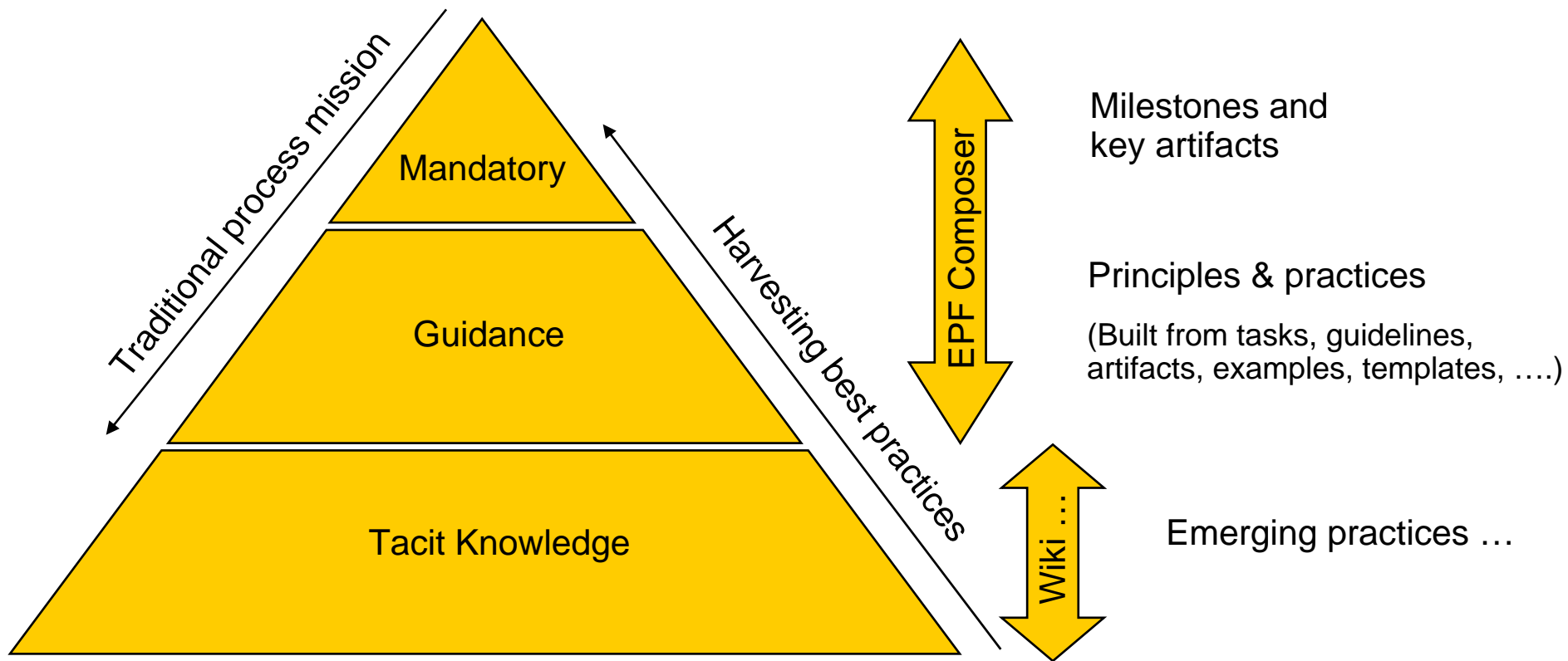
SPEM compliant

Process Engineering Process

Harvesting

SPI Cycle (s)

# Balancing the process push vs practice pull



Made available under EPL v1.0

## Conclusion

- SPEM 2.0 de facto open standard for SPM?
- Process Wikis benefit SPI: effectiveness, efficiency, adoption, acceptance
- EPF: software, content and a unique ecosystem. Part of your (more) open process innovation network?
- Get rid of the one-size-fits-all approach: Specificity and generality (consistency) at the same time.
- Processes are built-up not tailored-down
- Built-up defined processes can be tightly integrated with project work and used in new and innovative ways
- Qualitative change of the role of SPI in the organization?

“what really distinguishes open source is not just source, but an "architecture of participation" ....” [Tim O'Reilly](#)

“Open source gives more people access to the building blocks of innovation, enabling diverse perspectives and influences to be integrated into the creative process.” Nick Donofrio Sr. VP IBM At LinuxWorld August, 2004

Onno van der Straaten  
[onno.van.der.straaten@logica.com](mailto:onno.van.der.straaten@logica.com)

# QUESTIONS

Not used in presentation

# **ADDITIONAL SLIDES**

## Kansen en Uitdagingen voor SPI

- IT/Business Alignment
- Method Adoption and Use
- Process Definitions
- SPI Cycle
- Wikis/Communities
- Open Innovation

## **SPM empowers SPI:**

- SPM will empower SPI with the ability to deliver a customized process that satisfies unique needs of a project
- Using reusable process components that capture volatile project factors
- Processes are built-up, not tailored down

## **SPM will benefit and widen the area where SPI operates successfully:**

- Built-up defined processes can be tightly integrated with project work and used in new and innovative ways as the definition and use of processes is separated.
- Specificity and generality (consistency) at the same time

## Process Definitions

- SPM/EPF supports 'CMMI tailoring'
- Focus on process definition and modeling (and not on notation and conventions).
- Models will become comparable, interoperable with opportunities for reuse.
- Wiki/Community Tailoring:
  - Quickly raise the ability to perform the process
  - (Auto) capture process related experiences - CMMI OPF SP4

# Method Adoption and Use (2)

**basic\_unified\_process**

Presentation Name	Index	Model Info	Type	Predecessors	Repeat...	Orig
Basic Unified Process	0		Delivery Pro...		false	false
Inception Phase - Iteration n	1	extends 'inception_p...	Activity		true	false
Elaboration Phase - Iteration n	19	extends 'elaboration...	Activity		true	false
Manage Iteration	20	extends 'manage_ite...	Activity		false	true
Initiate Iteration	21		Task Descriptor		false	false
Conduct daily meetings	22		Task Descriptor		false	false
Manage Requirements	23	extends 'manage_re...	Activity		false	false
Define the Architecture	26	extends 'define_arch...	Activity		false	false
Develop Solution (for requirement)	29	extends 'develop_sol...	Activity		false	false
Validate Build	35	extends 'test, basic...	Activity		false	false
Create Test Cases	36		Task Descriptor		false	false
Implement Tests	37		Task Descriptor		false	false
Run Tests	38		Task Descriptor		false	false
Evaluate Test Results	39		Task Descriptor		false	false
Assess and Plan Next Iteration	40	extends 'assess_and...	Activity	20, 23, 26, 29, 35, 45	false	false
Manage Changes	45	extends 'manage_ch...	Activity		false	true
Construction Phase - Iteration n	48	extends 'construction...	Activity		true	false
Transition Phase - Iteration n	77	extends 'transition_p...	Activity		true	false

**scrum\_and\_bup**

Presentation Name	Index	Model Info	Type	Predecessors	Repeat...	Orig
Scrum and BUP	0		Delivery Process		false	false
Sprint 0	1		Iteration		false	false
Initiate Project	2	extends 'initiate_pro...	Activity		false	false
Assess and Plan Sprint	6	extends 'assess_and...	Activity		false	false
Manage Sprint	11		Iteration		false	false
Conduct Daily Scrums	12	extends 'manage_sp...	Activity		false	true
Manage Product Backlog	13		Task Descriptor		false	false
Develop Solution (for requirement)	14	extends 'manage_pr...	Activity		false	true
Validate Build	24	extends 'develop_sol...	Activity		false	false
Create Test Cases	25	extends 'test, basic...	Task Descriptor		false	false
Implement Tests	26		Task Descriptor		false	false
Run Tests	27		Task Descriptor		false	false
Evaluate Test Results	28		Task Descriptor		false	false
Assess and Plan Sprint	29	extends 'assess_and...	Activity		false	false



**OpenUP applying  
four RUP phases  
lifecycle model**

**OpenUP specific  
management  
approach**

**Scrum-like  
process with a  
lifecycle model  
using Sprints**

**Scrum specific  
management  
approach**

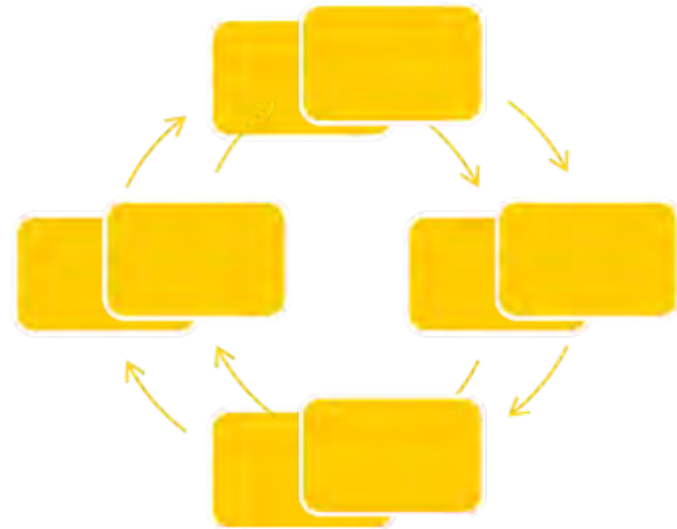
**Capability Pattern  
reused from  
OpenUP method  
plug-in**

Made available under EPL v1.0

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## SPI Cycle

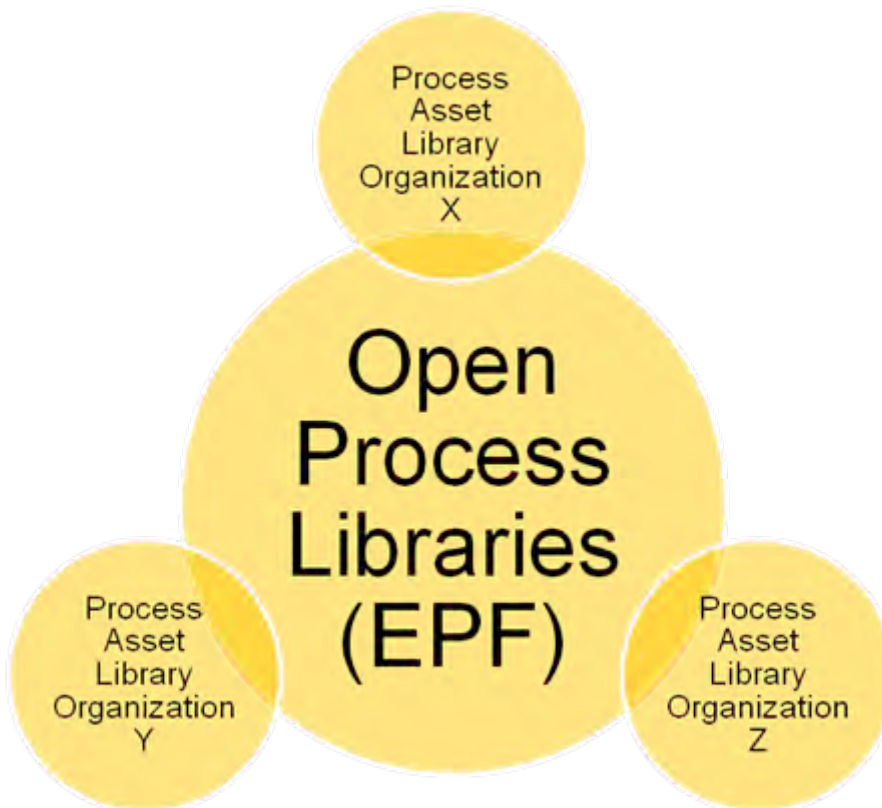
- More efficient and faster
- At various levels
- Who does what
- Centralized and distributed SPI



## Wikis/Communities

- Increase process performance with timely and specific guidance.
- Improve process customization by easily documenting the actual process on top of the defined process.
- (Auto) capture process related experience
- Identification of new process patterns
- Collaboratively develop standard processes and process assets

# Open (Process) Innovation



Open processes feeding improvements  
into organizational process libraries



Sharing process practices  
between partners  
In an open innovation network

More info:

[The Future of Open: Stepping into Open Innovation Practices](#), Ana Paula Valente Pereira